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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,153	02/02/2004	Tomoko Miyahara	118505	7247

25944 7590 12/13/2007

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EXAMINER	
LUND, JEFFRIE ROBERT	
ART UNIT	**PAPER NUMBER**
1792	

MAIL DATE	DELIVERY MODE
12/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/768,153	MIYAHARA ET AL.	
	Examiner	Art Unit	
	Jeffrie R. Lund	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) *7-14 and 19-33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,15-18 and 34-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species 1 in the reply filed on September 24, 2007 is acknowledged. The traversal is on the ground(s) that there is not burden to search all of the groups. This is not found persuasive because each group has a different mandatory search, and the additional searches are a great burden. Furthermore, apparatus and method claims require different considerations. For example, a limit that makes a method allowable may only be an intended use of the apparatus, or case law that is appropriate to a method claim is not appropriate for an apparatus and vice versa

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4, 6, and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Harutyunyan et al, US Patent Application Publication 2001/0053344 A1.

Harutyunyan et al teaches a carbon nanotube manufacturing apparatus,

comprising: a reaction tube 11 in which a carbon nanotube is grown by vapor phase growth; a gas supplying pipe 18 that supplies a carbon-containing raw material 16 carried on a gas flow to an interior of the reaction tube; a heating furnace 12 to heat the interior of the reaction tube; a porous gas decomposer 30 that is placed in the reaction tube to decompose the carbon-containing raw material upon contact with the gas flow; synthesizing portion coated with a metal catalyst 34 that is placed in the reaction tube and continuously supplied with the decomposed carbon-containing raw material, which has been carried on the gas flow to an outside of the gas decomposer, to synthesize a carbon nanotube. (Figure 1)

4. Claims 1, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Wen et al, US Patent 5,702,532.

Wen et al teaches a carbon nanotube manufacturing apparatus, comprising: a reaction tube 20; a gas supplying pipe 16 for supplying a raw material gas; a heating furnace 25 to heat the interior of the reaction tube; a gas decomposer 28 that is placed in the reaction tube to decompose the raw material gas upon contact with the gas flow; synthesizing portion 23 that is placed in the reaction tube and continuously supplied with the raw material gas. (Figure 4) The specific raw material gas supplied to the reaction tube and the material grown is an intended use of the apparatus. Wen et al is capable of supplying a carbon-containing raw material gas and forming nanotubes.

5. Claims 1-4, 6, 15-18, and 34-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Someya et al, US Patent Application Publication 2003/0147801 A1.

Someya et al teaches a carbon nanotube manufacturing apparatus, comprising:

a quartz reaction tube in which a carbon nanotube 3 is grown by vapor phase growth; a gas supplying pipe that supplies argon and propylene, a carbon-containing raw material carried on a gas flow to an interior of the reaction tube; a heating furnace to heats the interior of the reaction tube to 700 degrees C; a porous alumina and carbon gas decomposer 2 that is placed in the reaction tube to decompose the carbon-containing raw material upon contact with the gas flow; synthesizing portion coated with a metal catalyst that is placed in the reaction tube and continuously supplied with the decomposed carbon-containing raw material, which has been carried on the gas flow to an outside of the gas decomposer, to synthesize a carbon nanotube. (Examples)

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art teaches the technological background of the invention.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (571) 272-1437. The examiner can normally be reached on Monday-Thursday (10:00 am - 9:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrie R. Lund
Primary Examiner
Art Unit 1792

JRL
12/10/07